1-2: The student will demonstrate an understanding of the special characteristics and needs of plants that allow them to survive in their own distinct environments. (Life Science)

Key Concepts:
basic needs of plants: air, water, nutrients, space, and light
major structures of plants: stems, root, leaves, flowers, fruits, and seeds
plant characteristics: edible parts, physical traits,
life cycle: germination, growth, and the production of flowers and seeds
distinct environment

Supporting Content Web Sites

BBC
http://www.bbc.co.uk/schools/scienceclips/ages/5_6/growing_plants.shtml
This website simulates plant growth by allowing the student to water the plant to see growth. It also gives a diagram of the major structures of the plants.
1-2.1; 1-2.2

University of Illinois Extension
http://www.urbanext.uiuc.edu/gpe/case1/c1f.html
This site identifies the parts of edible plants and their traits while providing activities for use in the classroom. This site could be navigated by students with minimal teacher guidance.
1-2.3

Living Things: Families
http://sln.fi.edu/tfi/units/life/classify/classify.html
Teachers can visit this site for information to help answer student questions regarding plant classification, characteristics and physical traits.
1-2.3
Note: Some information is too advanced for students; appropriate for teacher background information.

University of Illinois Extension
http://www.urbanext.uiuc.edu/gpe/
This site takes students through the life cycle of plants as well as the identifying the parts of plants. Teacher guidance is required for navigation and understanding.
1-2.2; 1-2.4

Blue Planet Biomes
http://www.blueplanetbiomes.org/plants.htm
Pictures of plants in various regions can be found on this site. Students can view the pictures and make determinations about plants and their specific environments. This site will require teacher guidance and explanation but the pictures and environments are worth the time.
1-2.5
Note: Some information is too advanced for students; appropriate for teacher background information.

Plants and Our Environment
http://library.thinkquest.org/3715/
This site is for teachers who need to brush up on their understanding of plant characteristics and their environments. There are good links that give basic information.
1-2.6
Note: Some information is too advanced for students; appropriate for teacher background information.

What are Adaptations?
http://www.fairchildgarden.org/EduProfDev/What_are_adaptations.html
This site is for teachers to brush up on their knowledge of characteristics of plants. This site provides examples and illustrations of plants with specific adaptations.
1-2.6
Note: Some information is too advanced for students; appropriate for teacher background information.

Suggested Literature

Blackaby, Susan. (2003). *Plant plumbing: a book about roots and stems.* Minnesota: Picture Window Books.
ISBN: 1-40480-109-X
Lexile Level:
Reading Level: 2.5
This book provides illustrations of what stems do, the structures of stems and how stems and roots help plants survive.
1-2.2

Saunders-Smith, Gail. (1998). *Stems.* Missouri: Pebble Books.
ISBN: 1-56065-772-3
Lexile Level: 280
Reading Level: 1.9
This book describes the different stems and roots of flowers.
1-2.2

Royston, Angela. (1999). *Flowers, fruits and seeds.* Chicago: Heinemann Library.
ISBN: 1-57572-822-2
Lexile Level:
Reading Level: 4.2
This book introduces flowers, fruits and seeds through illustrations to show how plants reproduce.
1-2.2

Sekido, Isamu. (1993). *Fruits, roots, and fungi: plants we eat.* Minnesota: Lerner Publications.
ISBN: 0-8225-2902-5
Lexile Level:
Reading Level: 4.3
This book uses illustrations to show edible parts of plants.
1-2.3

Saudners-Smith, Gail. (1988). *Seeds.* Minnesota: Captsone Press.
ISBN: 1-56065-771-5
Lexile Level: 240
Reading Level
This book uses simple photographs to depict the types of flower seeds, how they travel and grow.
1-2.4

Ganeri, Anita. (2005). *Plant life cycles.* Chicago: Heinemann Library.
ISBN: 1-40345-896-0
Lexile Level:
Reading Level: 1.7
This book examines the patterns of the life cycles of plants beginning with seeds and bulbs.
1-2.4

Spilsbury, Louise. (2006). *Where do plants grow?* Chicago: Heinemann.
ISBN: 1-40347-362-5
Lexile Level:
Reading Level: 3.2
This book examines various habitats around the world for plants.
1-2.5

Branigan, Carrie. (2006). *All kinds of plants.* Minnesota: Smart Apple Media.
ISBN: 1-58340-610-7
Lexile Level:
Reading Level: 2.0
This book provides illustrations of plants, plant varieties, and physical characteristics.
1-2.6

Suggested Data Streaming Video

How Plants Grow
ETV Streamline
This video discusses plant parts such as stems, leaves and roots. This video addresses plant habitats and adaptation that allow plants to grow in various locations.
Entire Video 0:00 – 19:00
1-2.2; 1-2.3; 1-2.4; 1-2.5; 1-2.6

Plant Habitats Around the World
ETV Streamline
This video shows various types of plants in different biome locations such as the rainforest and desert. The video discusses the basics needs of plants and the adaptations that plants make in order to survive.
Entire Video 0:00 – 22:00
1-2.1; 1-2.5

Plant Parts We Eat: Leaves and Flowers
ETV Streamline
This video segment does a very good job of explaining the parts of plants that are edible including, almonds, apples, carrots and artichokes.
Plant Parts: Roots, Stems, Leaves, Flowers, Fruit and Seeds 0:00 – 1:36
1-2.2; 1-2.3

Plant Lifecycles
ETV Streamline
This video shows the germination and pollination processes as well as the lifecycle of several plants.
Entire Video 0:00 – 20:00
1-2.4

Debbie Greenthumb: Where Plants Come From
ETV Streamline
These video segments discuss how seeds are produced. The second segment discusses how flowers are produced.
Where do seeds come from? 8:19 – 9:11
Plant Reproduction: Flower Parts and Pollen 9:11 - 11:35
1-2.4

Desert Habitats
ETV Streamline
This video segment discusses how plants can survive in the desert due to its stems, roots, leaves and flowers.
What is a Habitat 0:00 – 0:36
What is a Desert 0:36 – 2:24
Plants Survive in the Desert 8:28 – 10:52
1-2.5, 1-2.6

Career Connections

Botanist
A botanist studies a wide range of living organisms from the smallest plant like bacteria to the largest living things - the giant sequoia trees. Botanists know about plant parts and how plants survive in various habitats.

Environmentalist
An environmentalist is someone who works to protect the environment from human destruction or industrial pollution. These individuals must understand the needs and characteristics of plant environments.

Horticulturist (Gardner)
A horticulturist studies a wide range of living organisms from the smallest plant like bacteria to the largest living things - the giant sequoia trees. Horticulturists know what plants need to survive and can identify various plant life cycles. Many horticulturists work for golf courses, resorts or own their own landscaping businesses